
MEMORANDUM

TO: Planning Commission

FROM: Stephen Henrichsen, Planning

SUBJECT: Findings on Future Service Limit Scenarios

DATE: August 30, 2005

COPIES: Mayor's Office
City Council & County Board
Planning staff
Larry Coffey
Mark Hunzeker
Don Wesely

Attached are the staff findings on the three draft Future Service Limit (FSL) scenarios for the year 2030. Due to the amount of information, we are publishing the findings using the Power Point presentation format. The Planning Commission is scheduled to have a briefing on these findings on Wednesday, September 14th from **11:00 a.m.** to 1:00 p.m. in Room 113 of the County-City Building.

The Planning Commission is also sponsoring a public open house on this information on Wednesday, September 7th from 5:00 to 6:30 p.m. at the Auld Recreation Center. The open house will begin with this presentation of the findings at 5:00 p.m.

The Future Service Limit scenarios will have a public hearing before the Planning Commission on Wednesday, September 28th as part of your normal agenda. The Commission is scheduled to take action and recommend a single FSL at that time.

This presentation is also available on our website at www.lincoln.ne.gov/city/plan/cplrtp or use key word "cplrtp."

If you have any questions, please feel free to contact me at 441-6374 or Duncan Ross at 441-7603.

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Future Service Limit Scenarios

August 31, 2005



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Why are we updating the Plan?

- Federal Highway Administration (FHWA) requires a 20 year Long Range Transportation Plan (LRTP) for federal transportation funds – update by June 2007
- LRTP is in the 2025 Comprehensive Plan
- Transportation plan needs minimum 20 year horizon
- Minor update of Comp Plan now
- Major updates in future





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What is the schedule?

Task Descriptions	2005												2006											
	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A
1 Process & Assumption Validation																								
2 Develop 3 Future Service Scenarios																								
3 Adopt Future Service Limit & Land Use Plan																								
4 Transportation Plan Evaluation																								
5 Plan Review and Planning Commission Adoption																								
6 Final City Council & County Board Adoption																								



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What are the assumptions?

2005 to 2030 Projected Additional Development

Population

115,000 more
persons in Lincoln

Residential

53,000 dwelling
units

Commercial

30 million square
feet of occupied
space

Industrial

1,700 acres



What is the capacity of the current Comp Plan?

	Residential	Commercial	Industrial
Capacity in 2025 FSL*	52,446 dwelling units	35 to 40 million square feet of commercial space	3,500 acres outside of the floodplain
2005 to 2030 Projection	53,000 dwelling units	30.4 million square feet	1,700 industrial acres

* Not including the Downtown/ Antelope Valley capacity for few thousand more dwelling units and several million sq. ft. of commercial

FSL is Future Service Limits or future “city limits” – the area to be provided with city services



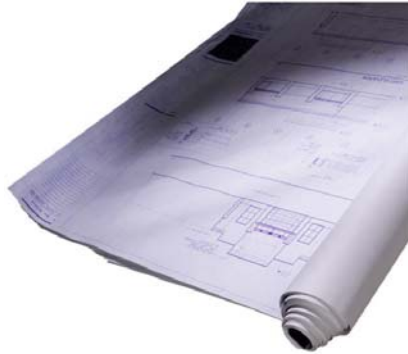
What are the costs of the current Comp Plan?

- **Funding is not in place for**
 - Roads
 - Water
 - Wastewater
 - Watershed Management



So why consider expanding FSL?

- Not all vacant land may be available
- Desire to expand to provide better locations
- Flexibility of greater capacity for development
- Developer interest in additional sites

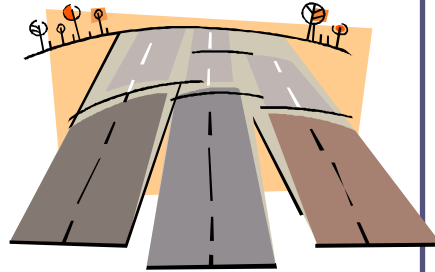


Why consider expanding FSL if there is enough space?

	25% Addition to Demand	Additional Acres
Residential	13,250 dwelling units, at 4 units per residential acre	3,300 acres (5.2 square miles)
Commercial	7.5 million square feet at 10,000 sq. ft. per acre	750 acres (1.2 square miles)
Industrial	425 industrial acres outside of the floodplain	425 acres (0.7 square miles)
<u>Other Uses</u>	<u>10% of new residential acres</u>	<u>300 acres</u> <u>(.5 sq. miles)</u>
<u>Total</u>		<u>7.5 to 8 square miles</u>

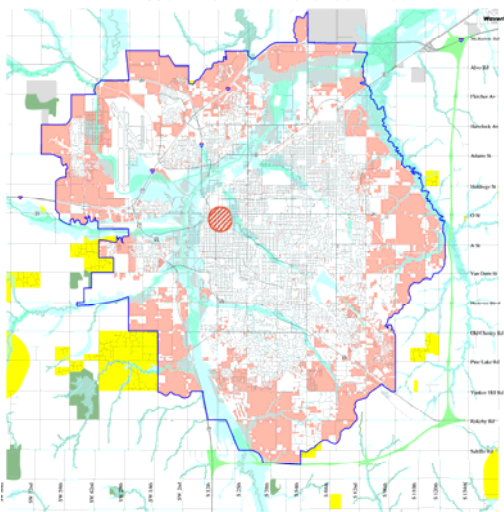
What is the purpose of the 3 FSL Scenarios?

- Important first step – determining the future service limit
- Three futures provide a way of evaluating different options
- Gain input on the type of future, direction and growth choices the community desires
- Consolidate many areas since short time period for review
- Not necessarily meant that only one scenario will be picked – provides menu of selections, could pick some subareas from Scenario 2 and 3
- Discovered potential ~ 100 acres at SW 40th & West A



What are the 3 Scenarios?

DRAFT SCENARIO 1 - 2030 FUTURE SERVICE LIMIT

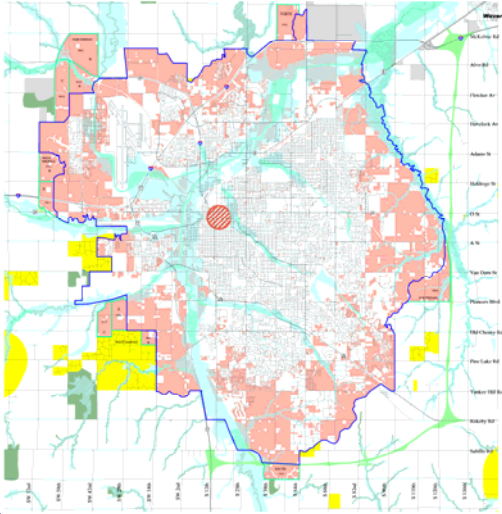


Scenario 1

- No increase in the 2025 FSL of 128 sq. miles
- 82.3 sq. miles in City limits today
- ~ 4 sq. miles inside 2025 FSL is in Wilderness and Pioneers Park

What are the 3 Scenarios?

DRAFT SCENARIO 2 - 2030 FUTURE SERVICE LIMIT

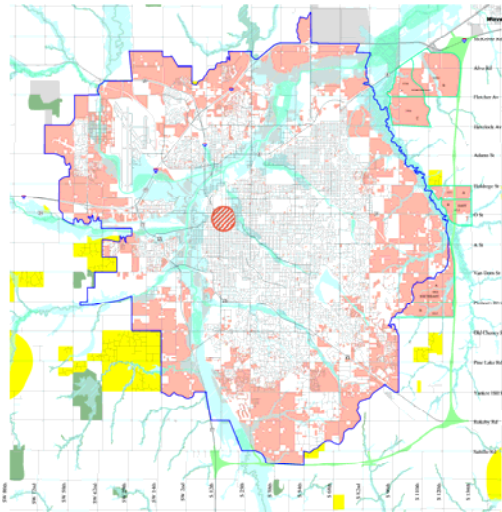


Scenario 2

- Multi-directional
- Adds ~8 sq. miles around City
- 136 sq. miles total

What are the 3 Scenarios?

DRAFT SCENARIO 3 - 2030 FUTURE SERVICE LIMIT



Scenario 3

- One direction – east
- Adds ~ 8 sq. miles around City
- 136 sq. miles total



How much land is available in each Scenario?

	Vacant & Agricultural Land	Minus "Flood" land
Scenario 1	26,200 acres (41 sq. miles)	20,400 acres (32 sq. miles)
Scenario 2	31,000 acres (48 1/2 sq. miles)	24,800 acres (39 sq. miles)
Scenario 3	30,500 acres (48 sq. miles)	24,300 acres (38 sq. miles)



What are the needs and costs to serve the 2025 Comp Plan?

Water Service

- Water is pumped from 42 Wells along Platte River, is treated then pumped 15 miles to Lincoln
- Water is not limited by the gravity drainage basins
- Ability to provide adequate water pressure is based on ground elevations
- Water service easiest to northeast with east and north a close second
- Then northwest, west, south, and southwest the most expensive
- Recommend booster districts only if 2 sq. miles served
- Existing Rural Water District service areas and acreage developments will impact costs for developing to the east and southeast – identified as developer's cost



What are the needs and costs to serve the 2025 Comp Plan?

Water Service

- Maintenance/ replacement of \$2.6 million per year grow to \$4+ million
- 2005-2011 Capital Improvement Program (CIP) include \$108 million
- In addition to CIP to serve all of Tiers 1 & 2 (approx. 45 to 50 years or more)
 - Add Well Field Capacity
 - Add Raw Water Transmission mains capacity
 - Add Treatment Plant
 - Treated Water Transmission main capacity
- Total Capital Costs for Additional Water Supply to Lincoln (regardless of direction of growth) - \$168 million



What are the needs and costs to serve the 2025 Comp Plan?

Water Service

- Long Term: additional well fields near plant – adequate supply to year 2035 -2040
- Should look beyond current Platte River aquifer for additional water supply
- A “broad brush ballpark” estimate for finding, building, treating, and delivering additional water to Lincoln, would be in the range of \$300 to \$400 million
- Could 10 to 20 years to undertake all of the efforts to locate & permit additional supply



What are the needs and costs to serve the 2025 Comp Plan?

Wastewater Service

The 25 year plan identifies a total of \$298 million for treatment plant and collection system improvements to serve the 81,873 acres identified in Tier I

Theresa Street Treatment Plant

- Construction in progress, nitrification capacity of 28 mgd.
- Based on 1.5% annual growth additional capacity will be required by 2033.

Northeast Treatment Plant

- Construction in progress, nitrification capacity of 10 mgd.
- Based on 1.5% annual growth additional capacity will be required by 2016.

Future SW Treatment Plant/ Storage Facility

- CIP includes \$5 million for site acquisition
- Additional funds serve more than Tier I and total 22,000 acres in Salt Creek Basin
- Site facility now in advance



What are the needs and costs to serve the 2025 Comp Plan?

Major Trunk Line Projects Underway

Salt Valley Trunk Sewer

Phases I thru IV have been completed for 22,000 acres

Oak Creek Trunk Sewer

Remove bottlenecks and serve additional 1500 acres

Northeast Salt Creek Basin

Serve 56th Arbor Road area

Stevens Creek Basin

Designed for west bank and some of east



What are the needs and costs to serve the 2025 Comp Plan?

Transportation

- Starting with 2025 Comp Plan road plan
- Significant gap between road projects and funds to serve 2025 plan
- Plans to complete Antelope Valley and South & East Beltway within time period
- Traffic modeling not used for review of scenarios
- Upcoming steps will look at transportation network and alternatives in more detail



What are the needs and costs to serve the 2025 Comp Plan?

Watershed Management

- Implementation of Watershed master plans underway in Stevens Creek, Beal Slough, and Southeast Upper Salt Creek
- Plans/mapping in development along Cardwell Branch, Salt Creek, Dead Man's Run, Little Salt Creek



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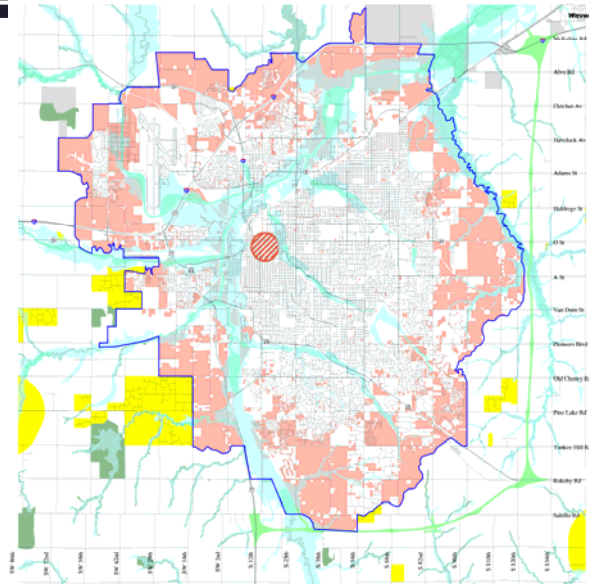
Review of 3 Scenarios



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Scenario 1

DRAFT SCENARIO 1 - 2030 FUTURE SERVICE LIMIT



Scenario 1: Strengths

- Potential incentive for more efficient use of land
- Provides adequate space through 2030 – longer if land used more efficiently
- Concentrates development on new areas to be served
- Minimizes the need for additional infrastructure beyond current Plan
- Lowest water and sanitary sewer costs of all three scenarios
- Reduced vehicle trip length (people closer to destination) compared to other scenarios
- Supports goals for multi-directional growth

Scenario 1: Weaknesses

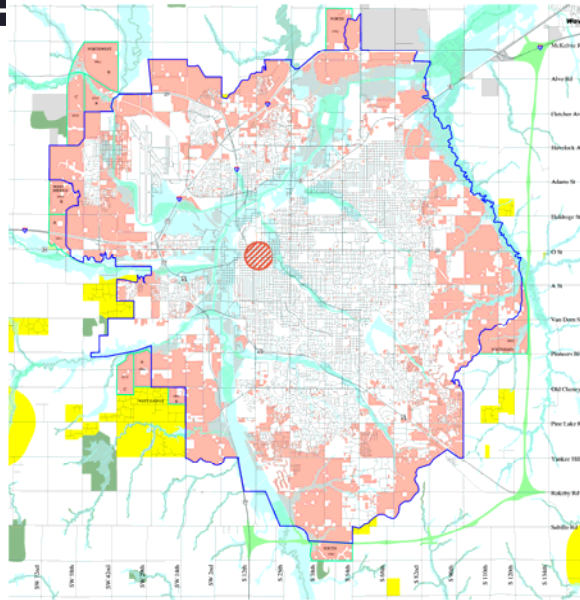
- More limited choice of land for development in planning period
- In long term, less land may increase land costs
- More pressure on higher density residential
- Fewer locations for new office and industrial parks



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Scenario 2

DRAFT SCENARIO 2 - 2030 FUTURE SERVICE LIMIT

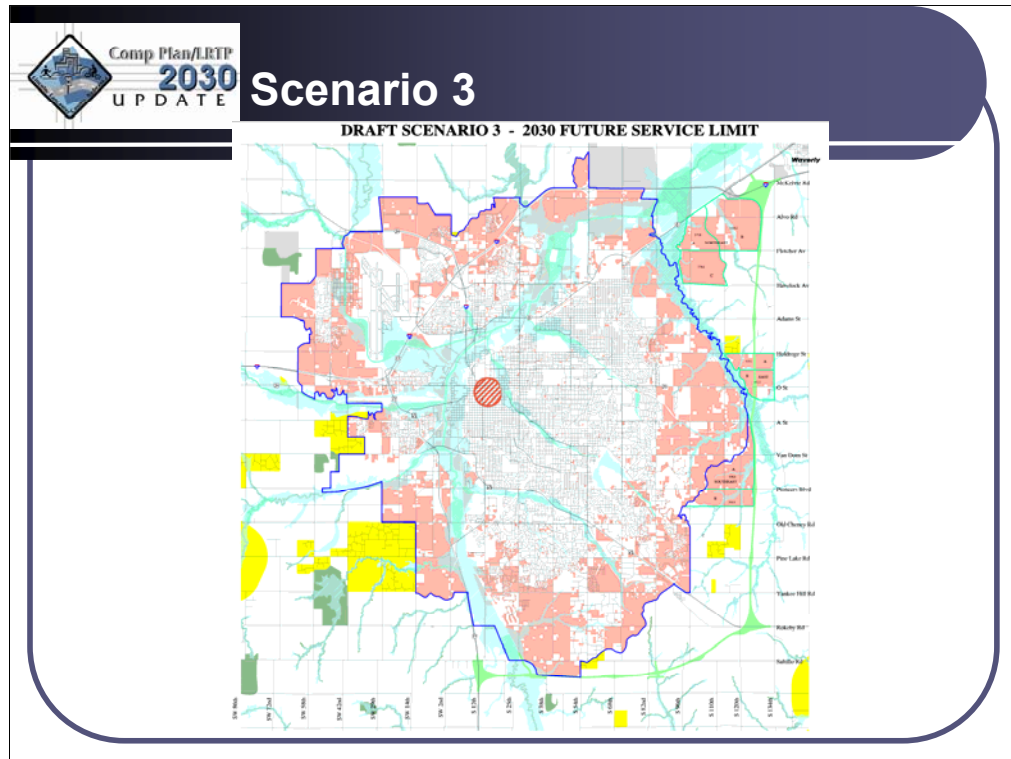


Scenario 2: Strengths

- More choice of land for development in planning period
- More land may decrease land costs
- Perhaps less pressure on higher density residential areas in existing neighborhoods
- More locations for new office and industrial parks, particularly along highways
- Supports goals for multi-directional growth
- Reflects market reality of interest in development in all areas of Lincoln
- More efficient to add a little bit of land in many areas already under development or planned for infrastructure improvements
- Better use of road capacity in growth along future 6 lane I80 and 4 lane Hwy 34, Hwy 77 and South Beltway
- Distributes traffic better compared to Scenario 3
- Office and industrial sites have more visibility on existing highways/ I-80 compared to Scenario 3

Scenario 2: Weaknesses

- More infrastructure costs in 25 year period to serve same population as Scenario 1
- Highest water and sanitary sewer costs of all three scenarios
- Require additional watershed management studies
- Increase watershed administration costs due to serving multiple basins rather than one main basin as in Scenario 3 (watershed construction costs between Scenario 2 and 3 may be similar)
- Increases vehicle trip length compared to Scenario 1 (same # of people spread over a larger area)
- Requires SW Treatment/Storage facility



Scenario 3: Strengths

- More choice of land for development in planning period
- Perhaps less pressure on higher density residential areas in existing neighborhoods
- More locations for new office and industrial parks
- Closer to water supply, easier and less cost to serve than Scenario 2
- Easier and less cost to serve for sanitary sewer than Scenario 2
- Better use of road capacity in growth along future 6 lane I-80 and 4 lane Hwy 34, Hwy 77 and South and East Beltway
- Does not require additional watershed management studies
- Since development is in single watershed, less watershed administrative costs than Scenario 2

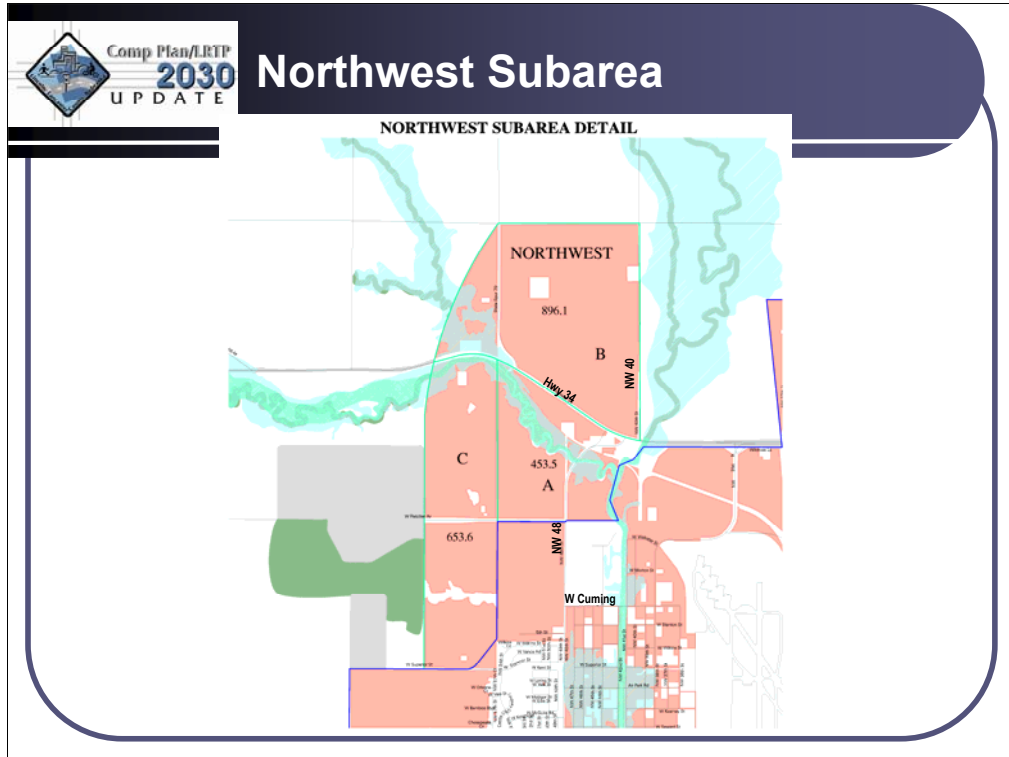
Scenario 3: Weaknesses

- More infrastructure costs in 25 year period to serve same population as Scenario 1
- Does not reflect market interest in other areas of Lincoln
- Provides additional land, but all in one basin, which may impact choice and land costs
- Increases trip length (people spread over a larger area) compared to Scenario 1
- Existing roads are mostly dirt or gravel in subareas
- More pressure on east-west roads in east Lincoln than other scenarios
- Small portion next to I-80 may not be able to be served by sanitary sewer
- Accelerates need for East Beltway – currently have limited funding
- If East Beltway not built in time period, little road capacity to serve new growth
- If East Beltway not built, then office and industrial sites have less highway visibility and access than Scenario 2



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Subarea Review

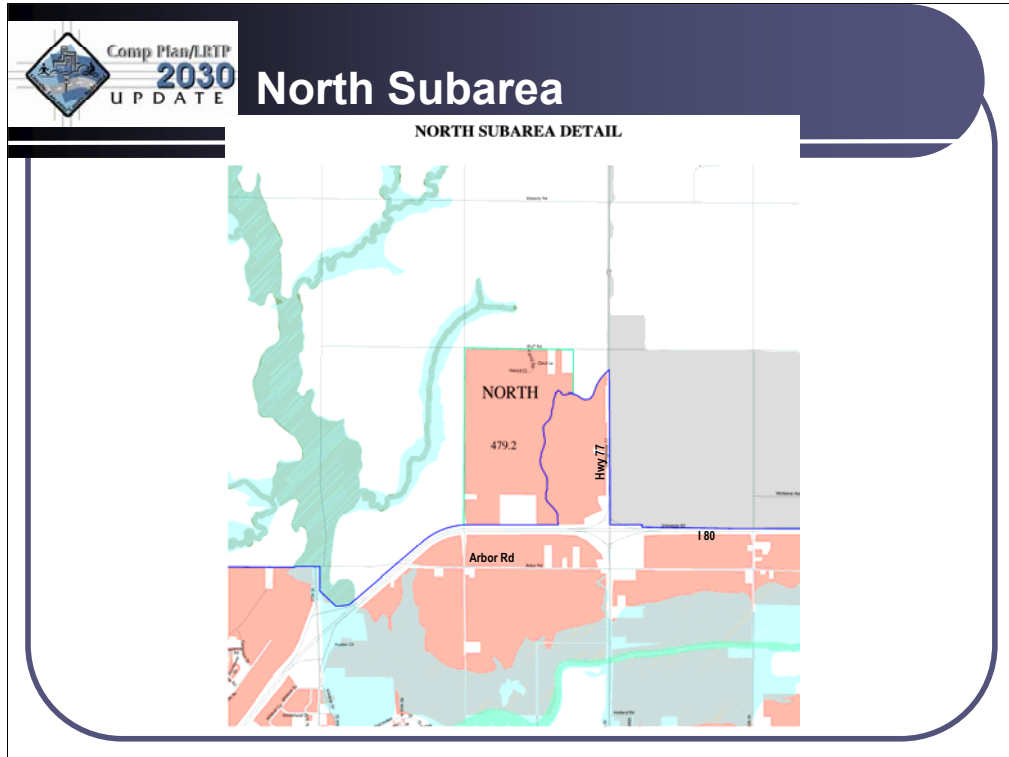


NORTHWEST Subarea Strengths

- Developer interest in area
- Potential for office/ industrial locations along Highway 34
- Utilizes current and future 4 lane capacity on Highway 34
- Promotes multi-directional growth
- Land is outside Airport Noise zones, part in Approach Zone

NORTHWEST Subarea Weaknesses

- Can only serve 1,500 acres (2.3 sq. miles) – not all of land proposed
- Water service requires booster district; land needing booster is fragmented making a district more costly (cost \$2 to 5 million or more for booster district)
- Need at least 2 sq. miles for cost effectiveness
- Urban development next to Nine Mile Prairie a concern
- Is not contiguous to urban residential uses
- Will alter LPS school plans

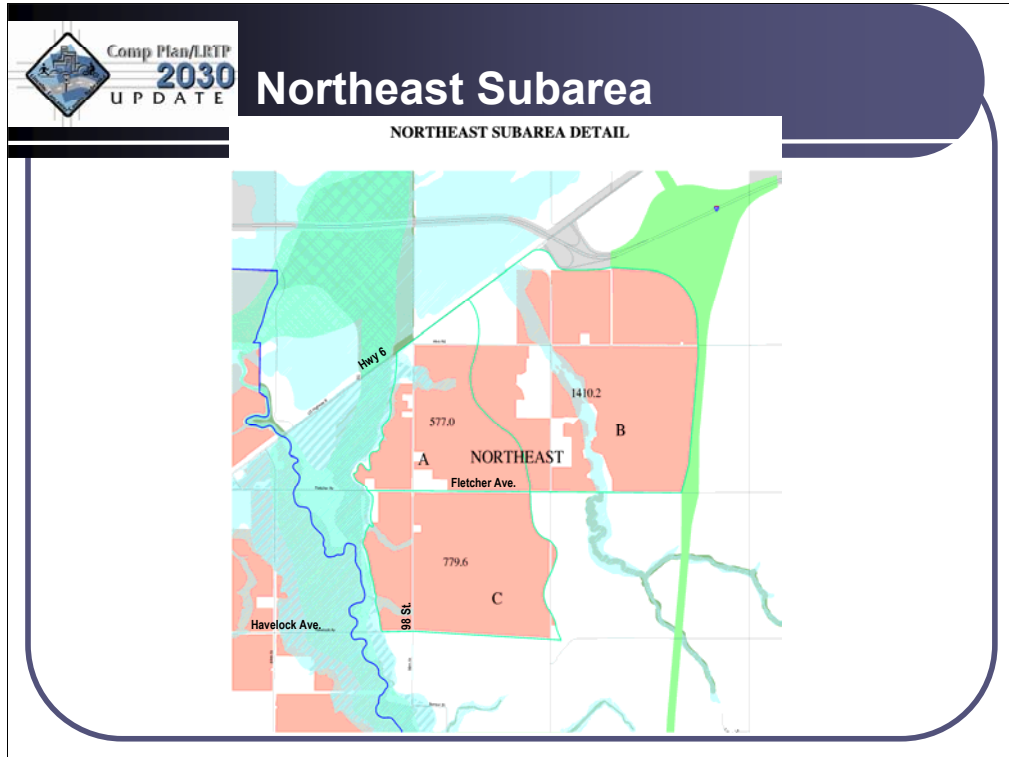


NORTH Subarea Strengths

- Developer interest in area
- Potential for retail, office & industrial locations along I-80
- Utilizes 4 lane capacity on Highway 77 and 6 lanes on I-80
- Promotes multi-directional growth

NORTH Subarea Weaknesses

- Sanitary sewer service to this land in Little Salt Creek basin not yet confirmed
- Timing of Stevens Creek sewer impacts near-term capacity for this area
- Water service a challenge since most of land is above service elevation
- Not enough land for a booster district, PWU recommends at least 2 sq. miles for cost effectiveness
- Potential impact on rare saline wetlands and endangered Salt Creek Tiger Beetle
- Land west of landfill not suitable for residential use
- Subarea also access to gravel N. 40th and Bluff Roads



NORTHEAST Subarea Strengths

- Developer interest in area
- Potential for office & industrial locations along Cornhusker, I-80 & future East Beltway
- Utilizes 4 lane capacity on Cornhusker & future East Beltway; 6 lane I-80
- Promotes multi-directional growth
- Water service relatively easier – will require distribution mains
- Capacity in Stevens Creek trunk line
- Includes Novartis and other existing businesses inside city limits
- Would bring Lincoln next to Waverly city limits

NORTHEAST Subarea Weaknesses

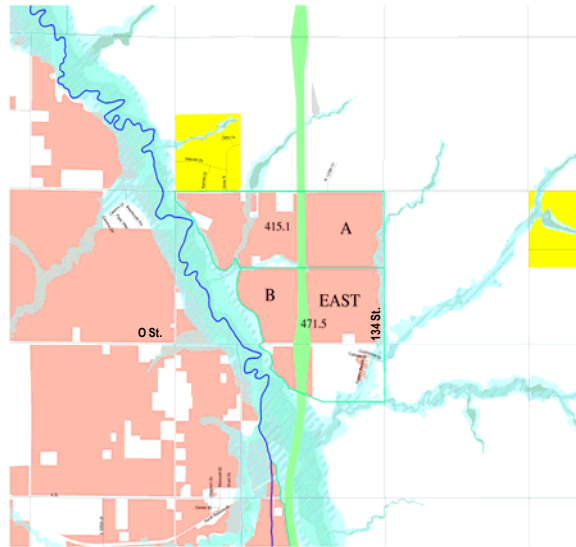
- Initially impacts N. 84th Street capacity until 98th Street improved
- Road network is gravel except for Cornhusker
- Separated from city by greater than ½ to 1 mile wide floodplain
- Most of land is not visible from Cornhusker, I-80 or East Beltway
- No timetable for East Beltway
- Smaller subarea Northeast B may not be able to be served by gravity sewer
- High pressure underground natural gas pipeline traverses the area in two places



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East Subarea

EAST SUBAREA DETAIL

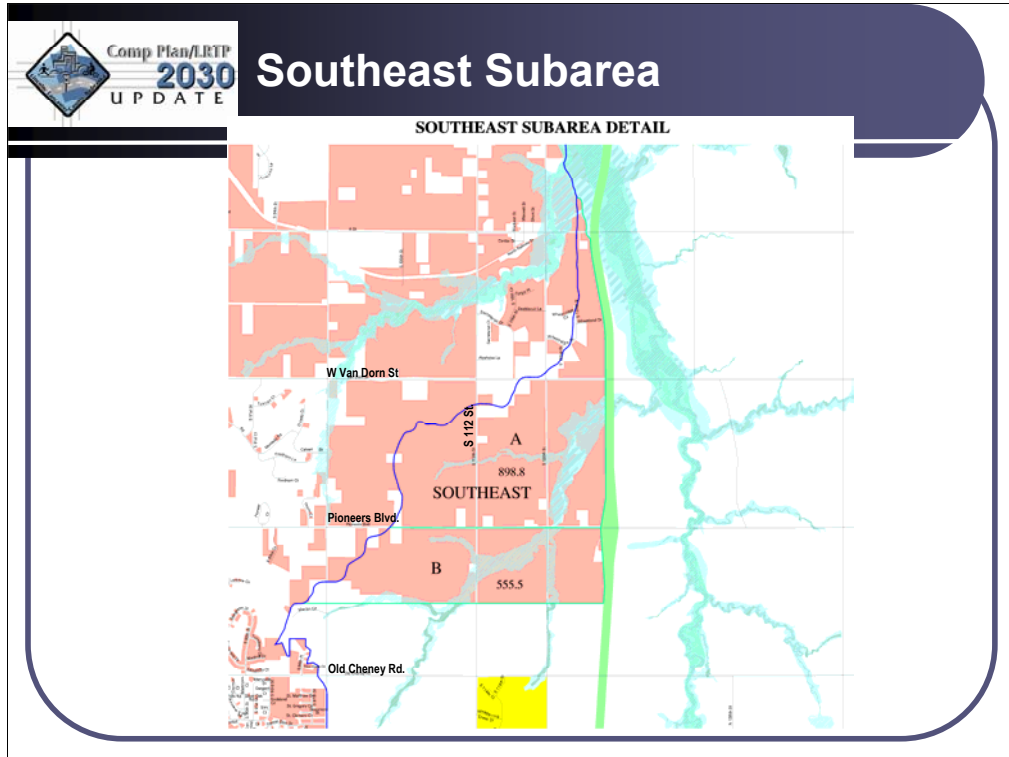


EAST Subarea Strengths

- Developer interest in area
- Potential for retail, office & industrial locations along O Street & future East Beltway
- Utilizes future 4 lane capacity on East O & Beltway
- Water service relatively easier – will require distribution mains
- Capacity in Stevens Creek trunk line
- Includes Crooked Creek golf course in city limits

EAST Subarea Weaknesses

- In long term, may impact the already congested O Street west of 70th Street
- Road network is gravel, some rural pavement except for O Street
- No timetable for East Beltway
- Utilizes future Stevens Creek trail and greenway



SOUTHEAST Subarea Strengths

- Main potential for residential uses
- Perhaps long term retail interest at East Beltway & Pioneers interchange
- Capacity in Stevens Creek trunk line

SOUTHEAST Subarea Weaknesses

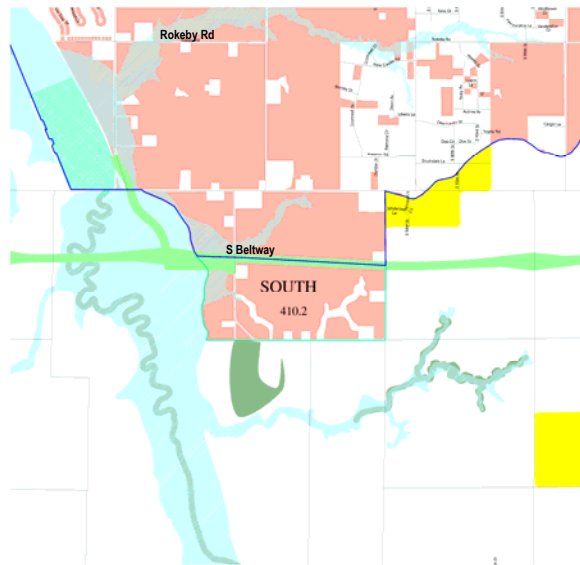
- Requires sewer & water to be extended through miles other undeveloped Tier I areas
- Definitely not a near term development area
- Road network is gravel, some rural pavement
- No timetable for East Beltway



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South Subarea

SOUTH SUBAREA DETAIL

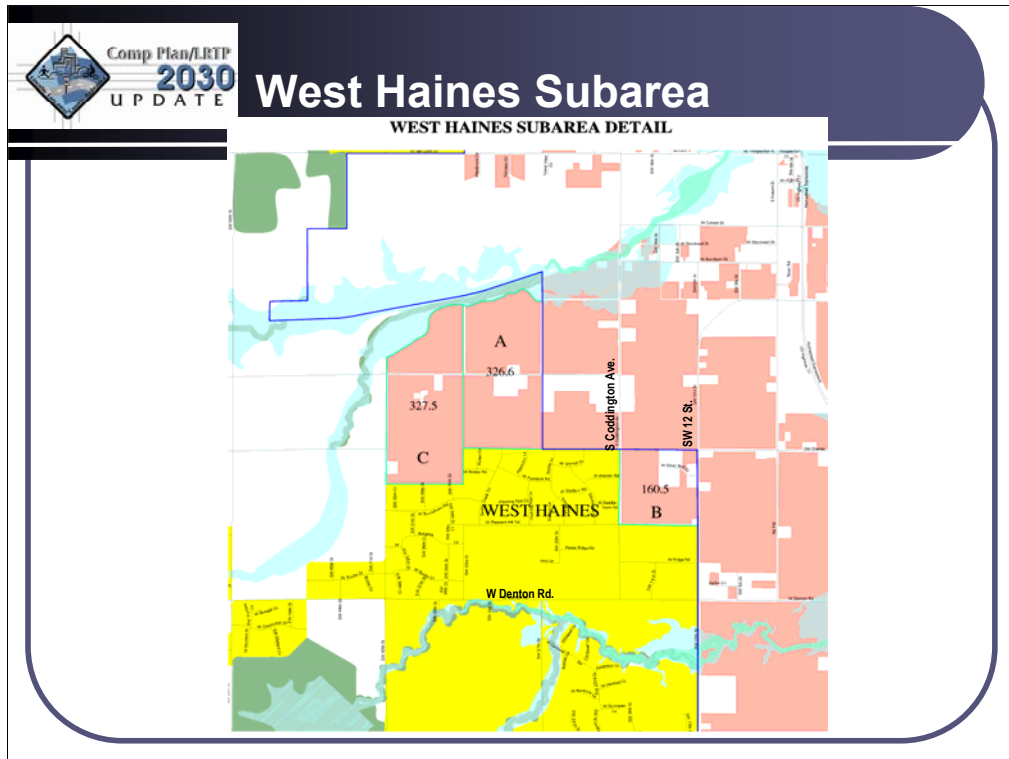


SOUTH Subarea Strengths

- Potential developer interest south of future interchange
- Some potential for office & industrial or highway retail next to South Beltway
- Utilizes 4 lane future capacity on South Beltway (done by 2012?)

SOUTH Subarea Weaknesses

- No capacity in Salt Creek trunk line beyond current Tier I –
- 410 acres would trigger need for SW Treatment Plant/ storage facility
- Rural paving on S. 54th, gravel on S. 38th
- Half of land is more than ½ mile from South Beltway interchange

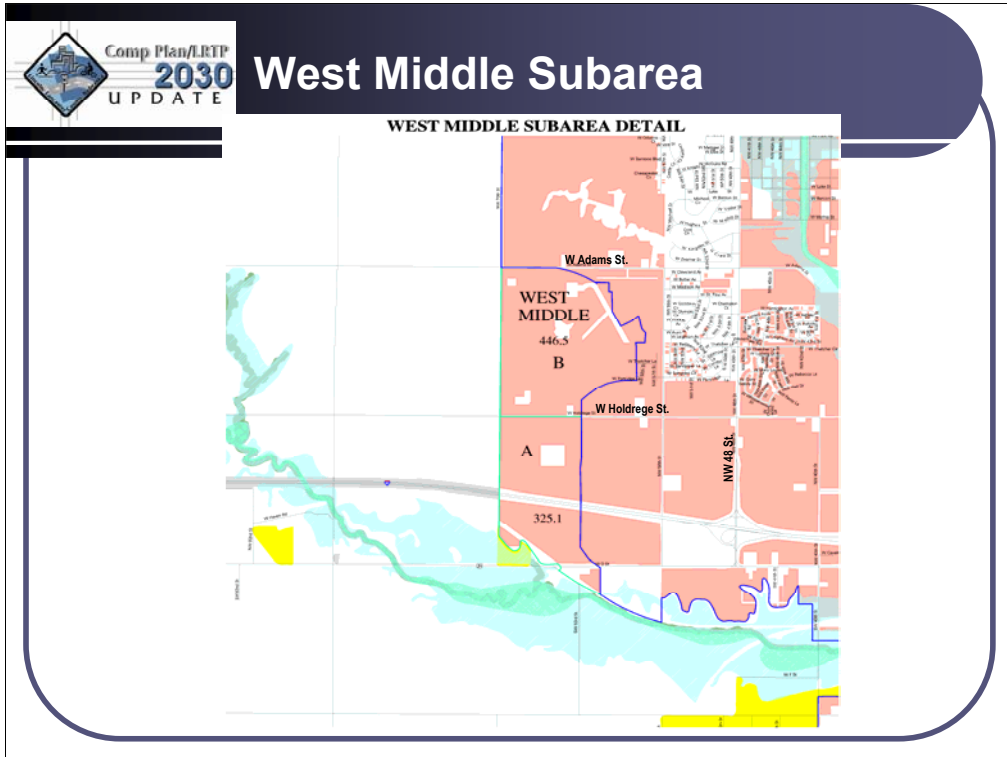


WEST HAINES Subarea Strengths

- Potential for residential uses
- Landowner and developer interest in area
- Would serve State owned land declared surplus
- Small increments would not trigger need for significant water or roads
- Promotes multi-directional growth
- Logical extension and use of expense for future Haines Branch trunk sewer
- Close proximity to Pioneers & Wilderness Park and recreational fields

WEST HAINES Subarea Weaknesses

- Total of 800+ acres would trigger need for SW Treatment Plant/ storage facility
- Requires sewer & water to be extended through miles other undeveloped Tier I areas
- Not a near term development area
- Road network is gravel and incomplete
- High pressure underground petroleum pipeline traverses this area from northwest to southeast



WEST MIDDLE Subarea Strengths

- Potential for residential uses
- Developer interest in area
- Potential for industrial locations along 6 lane I-80
- Promotes multi-directional growth
- Logical extension and use of expensive Middle Creek trunk sewer

WEST MIDDLE Subarea Weaknesses

- Water service requires booster district, should have at least 2 sq. miles for cost effectiveness (cost \$2 to 5 million or more for booster district)
- Requires sewer & water to be extended through miles other undeveloped Tier I areas
- Road network is gravel
- No overpass of I-80 at N. W. 70th, only on N. W. 56th currently
- High pressure underground petroleum pipeline traverses this area from north to south



What is the schedule from here?

- **Public open house**
 - FSL Scenarios
 - Wednesday, September 7
 - 5:00 to 6:30 p.m.
 - Auld Recreation Center
- **Planning Commission**
 - FSL Review
 - Wednesday, September 14
 - 11 a.m.
- **Planning Comm**
 - Public Hearing and give direction on single FSL
 - Wednesday, September 28
- **Super Common**
 - Commission, Mayor, Council and County Board on FSL direction
 - Monday, October 3



Looking ahead: Tentative schedule

- Public release of proposed **Land Use, Priority Areas and Tier II & III maps**
 - Wednesday, October 12
- Review with **Planning Comm.**
 - Wednesday, October 12 at 11 a.m.
- **Public open house**
 - Wednesday, October 12 from 5:00 to 6:30 p.m. at Gere Library)
- **Planning Comm. Public Hearing**
 - Wednesday, October 26
- **Super Common**
 - Tuesday, November 1





How can I get more information?



- Visit the website at lincoln.ne.gov (keyword: cplrtp)



- Call the Planning Department at 441-7491 or Public Works & Utilities at 441-7548.